



Billing Code 4310–55

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS–R1–ES–2015–0026; FXES11130100000–156–FF01E00000]

Notice of Intent to Prepare a Programmatic Draft Environmental Impact Statement for Invasive Rodent and Mongoose Control and Eradication on U.S. Pacific Islands within the National Wildlife Refuge System and in Native Ecosystems in Hawaii

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of intent; request for comments.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), intend to prepare a Programmatic Draft Environmental Impact Statement (PDEIS) to analyze the impacts of, and alternatives to, using integrated pest management (IPM) to control or eradicate invasive rodents and mongooses on U.S. Pacific Islands within the National Wildlife Refuge System (Refuge System) and in native ecosystems in Hawaii and to protect native

wildlife and plants, including federally listed threatened and endangered species and designated critical habitats. The PDEIS is for informational and planning purposes to improve and facilitate rodent and mongoose control on Federal, State, and private lands through the IPM process; it does not initiate any specific action or project. The PDEIS will be prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) and in compliance with the State of Hawaii's environmental review process. The lead agencies for preparing the PDEIS are the Service and the State of Hawaii Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife (DOFAW). With this notice, the Service and DOFAW request comments, recommendations, and advice on the scope of issues, alternatives, and mitigation to be addressed in the PDEIS.

DATES: *Written Comments:* To ensure consideration, we must receive your written comments on or before **[INSERT DATE 120 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]** to ensure all relevant information and recommendations are considered during the PDEIS process. Public scoping meetings will be held at a later date. Meeting dates, locations, and times will be announced in a future notice.

At a later date, DOFAW will be publishing an Environmental Impact Statement preparation notice, as defined by Chapters 201N and 343 of the Hawaii Revised Statutes and title 11, chapter 200 of the Hawaii Administrative Rules, in *The Environmental Bulletin* published by the Hawaii State Office of Environmental Quality Control (OEQC).

ADDRESSES: Send your comments regarding the proposed action and the proposed PDEIS by one of the following methods:

- *Electronically:* www.regulations.gov. Follow the instructions for submitting comments on Docket No. **FWS–R1–ES–2015–0026**.
- *U.S. Mail:* Public Comments Processing, Attn: **FWS–R1–ES–2015–0026**;
Division of Policy and Directives Management; U.S. Fish and Wildlife Service;
MS: BPHC; 5275 Leesburg Pike; Falls Church, VA 22041–3803.

We request that you send comments by only one of the methods described above. We will post all comments on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see the **Public Availability of Comments** section below for more information).

FOR FURTHER INFORMATION CONTACT: Kristi Young, Acting Field Supervisor, U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, 300 Ala Moana Boulevard, Room 3-122, Honolulu, HI 96850; telephone (808–792–9400); facsimile (808–792–9581). If you use a telecommunications device for the deaf, please call the Federal Information Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION: We, the Service, intend to prepare a PDEIS to analyze the impacts of, and alternatives to, using IPM to control or eradicate invasive rodents and mongooses on U.S. Pacific Islands within the Refuge System and in native ecosystems in Hawaii and to protect native wildlife and plants, including federally listed threatened and endangered species and designated critical habitats. The intent of this

proposal is threefold: (1) To increase the effectiveness of rodent and mongoose management in the main Hawaiian Islands and make more efficient use of limited financial resources; (2) to develop techniques for an IPM approach to eradicate rodents from uninhabited islands within the main Hawaiian Islands and from other U.S. Pacific Islands within the Refuge System; and (3) to avoid adverse impacts to human health and safety and the environment.

IPM as a concept would assess whether rodents and mongooses are negatively affecting native species and interfering with management goals for native species; identify methods of control/or eradication; evaluate the merits and impacts of available control/eradication methods; implement the selected method(s) of control or eradication and use monitoring of the target pest species, selected non-target species, and native species to determine the effectiveness of the method(s); and use that information to adjust implementation of the methods, if needed.

The PDEIS will be prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) (40 CFR 1508.22) and in compliance with the State of Hawaii's environmental review process. The lead agencies for preparing the PDEIS are the Service and the State of Hawaii Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife (DOFAW). With this notice, the Service and DOFAW request comments, recommendations, and advice on the scope of issues, alternatives, and mitigation to be addressed in the PDEIS.

Background

There are no native rodent species in Hawaii. Introduced mammalian species on the Hawaiian Islands include the Norway rat (*Rattus norvegicus*), black rat (*R. rattus*), Polynesian rat (*R. exulans*), house mouse (*Mus musculus*), and the small Indian mongoose (*Herpestes auropunctatus*). Mongooses are established only on the islands of Hawaii, Maui, Molokai, and Oahu. The presence of rodents and mongooses has resulted in or contributed to the extinction or endangerment of many native species in Hawaii. Rodents and mongooses consume the adults, chicks, and eggs of seabirds, waterbirds, and forest birds; and sea turtle eggs and hatchlings. Rats and mice eat native plant seeds, fruits, seedlings, and flowers, and compete with native birds for food. Rats and mice kill plants by chewing off stems and stripping bark. Invertebrates, including native species, make up a large proportion of the diet of rodents and mongooses in Hawaii. Rats can change the species composition of native forests and other natural areas. They have destroyed entire ecosystems, such as the native palm forests that once covered the lowland plains of Oahu when the first Polynesians arrived in Hawaii. The native palm population is now limited to remnant patches scattered around the main Hawaiian Islands; one species of palm is now primarily restricted to two rat-free sea stacks off the coast of Molokai. The loss of native species also threatens Native Hawaiian cultural practices that rely on these species. Introduced rats and mice are also present on some uninhabited offshore islands within the main Hawaiian Islands, and other Pacific islands under U.S. jurisdiction, such as the atolls of Midway, Wake, and Johnston, which are within the National Wildlife Refuge System. Effective rodent and mongoose control and eradication are essential to halt further declines and extinctions of many species, particularly those listed under the Endangered Species Act of 1973, as amended (16

U.S.C. 1531 *et seq.*) (ESA) and protected by the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703–712).

A number of management techniques targeting rodents and mongooses are used to protect crops, human health, and native species throughout the world. Many of these techniques have been used historically in Hawaii by State and Federal agencies, private landowners, nongovernmental organizations (NGOs), and other entities to manage rodents and mongooses to protect native species. Management efforts have been conducted on both private and public lands, using private and public funds. Control efforts and eradications have been undertaken as routine management, to minimize or mitigate the take of native species listed under the ESA, to fulfill responsibilities under Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds), as restoration actions under the Natural Resource Damage Assessment and Restoration (NRDAR) process, and to improve the chances of survival of critically rare native species. These methods currently used will be considered as part of the IPM approach proposed in the PDEIS.

In effective control situations, the rate of removal of pest individuals must exceed the reproductive rate of the pest population and the rate of in-migration of new individuals of the pest into the control area. Even then, the reduction in pest numbers is temporary; once control efforts cease, the numbers begin to return to pre-control levels. Eradication of a pest, which is the removal of every individual, is possible in areas where natural or human-made barriers prevent reinvasion by other individuals of the pest species. Such areas include islands offshore of the main Hawaiian Islands, islands within the Papahānaumokuākea Marine National Monument (Monument), or in limited areas on

the main Hawaiian Islands that are surrounded by predator-resistant fencing, such as the Kaena Point Natural Area Reserve on Oahu. Where pest eradication is achieved, the ecosystem can recover from many of the problems that the pest had caused.

To identify and develop the issues described in this notice, the Service and DOFAW held meetings with other State and Federal agencies, private landowners, NGOs, Native Hawaiian organizations, and members of the community.

Purpose and Need for the Action

Rats are believed to have caused the extinctions, local extirpations, and continuing declines of many of Hawaii's endemic forest birds and seabirds. Rats and mongooses also are considered to be a threat to all four of Hawaii's federally endangered waterbird species. Hawaii's federally endangered endemic snails have been decimated and continue to be negatively affected by rats. Impacts by rodents have also been documented to 135 federally listed threatened and endangered plant species in Hawaii. Federal and State agencies have invested considerable resources on rodent and mongoose management and control because of the species' devastating impacts on native ecosystems and on federally and State-listed threatened and endangered species in Hawaii. Native species needing protection from rodents and mongooses are found in fragmented small areas, such as wetlands or coastal areas, and in large continuous swaths of native forest. The control projects currently conducted in the main Hawaiian Islands are limited to an extremely small scale by circumstances such as topography, land ownership boundaries, remoteness, and costs. However, rodents and mongooses are widespread and reach high population densities not only in human-altered areas but also

in relatively intact native ecosystems. In most places, no natural or human-made features within the islands impede their distribution. Thus, small-scale control efforts are overwhelmed by new individuals replacing those removed, and control must be done either continuously or repeatedly. Hawaii's native species will likely require protection from rodents and mongooses in perpetuity.

Eradication techniques need to be available for uninhabited offshore islands, the Monument, and other U.S. Pacific Islands within the Refuge System, such as Wake and Johnston Atolls, to quickly respond to new rodent introductions as well as to eradicate existing rat and mouse populations.

The goal of the Service and DOFAW is to identify an IPM approach to rodent and mongoose control and eradication that not only results in documentable benefits to native species, but which also is compatible with maintaining other resource uses, such as fresh water, hunting and fishing, and cultural practices. Resource management in Hawaii is often evaluated within the context of the ahupuaa, the pre-Western-contact system of land division typically extending from the mountains into the sea, including the nearshore marine environment. Under this ecosystem model, actions taken anywhere within an ahupuaa are understood to have the potential to affect the entire ahupuaa and even other ahupuaa as well.

We are proposing to develop an IPM approach that would allow land managers to increase the effectiveness of rodent and mongoose control on a landscape scale as necessary in a programmatic fashion, because the number of native species affected by rodents and mongooses is so high, and the total area over which native species are distributed on the main Hawaiian Islands is so large. The IPM approach should

incorporate methods to assess the effectiveness of the control and to detect and quantify indirect and cumulative effects resulting from the control. In New Zealand, these concepts are successfully used to protect native plant and animal species from rodents: the population dynamics of native species are first modeled in relation to different levels (indices) of rodent control, as measured by footprint-tracking tunnels or snap-traps placed throughout the treatment area; levels of reproductive success, survival, and population growth of the native species are then correlated with specific indices of rodent activity; and rodent control efforts are adjusted to meet the target indices of rodent activity that yield the desired effect on the native species' populations. These concepts linking native species success to predator control could be adapted to be used successfully in Hawaiian ecosystems. Examining and analyzing the use of these methods is part of our purpose and need for this PDEIS.

This approach is consistent with Integrated Pest Management (IPM). Federal law (7 U.S.C. 136r-1) directs Federal agencies to use IPM techniques in carrying out pest management activities. Department of the Interior and Service policies (517 DM 1 and 569 FW 1) require that all pest management activities conducted, approved, or funded by the Service, on or off Service lands, be conducted using IPM. IPM is described by the U.S. Environmental Protection Agency (EPA), the National Park Service (NPS), and the Service as a process that relies on knowledge of the pest's population dynamics and behavior to design the most effective combination of methods for managing the pest. These can include cultural, mechanical, chemical, and/or biological control tools. IPM incorporates flexibility of the methods in order to match the most effective tools with the goals established for the pest control. A fundamental principle of IPM, as stated in the

Service's Guidance for Preparing and Implementing Integrated Pest Management Plans (2004), is to "...select those methods, or combination of methods, that are feasible, efficacious, and yet most protective of non-target resources, including wildlife, personnel, and the public." It is distinguished from other pest management approaches by its emphasis on establishing action thresholds, monitoring, and ongoing evaluation of the effectiveness and the risks of the control methods selected. The target pest activity must be monitored within the treatment area, and, following principles of adaptive management, the methods may be adjusted or changed to respond to pest behavior, pest population levels, and non-target impacts. The IPM process directly lends itself to informing adaptive management decisions.

The use of pesticides is regulated under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S.C. 136 *et seq.*) and Hawaii State pesticide laws and regulations. No special provisions exist under FIFRA for the use of pesticides for conservation purposes; these uses must comply with the same requirements for effectiveness and safety that apply to agricultural and public health uses. Any use of a rodenticide for conservation purposes would need to be covered by pesticide labeling approved by the EPA and the State of Hawaii Pesticides Branch.

The purpose of this proposal is to develop an effective, comprehensive, and landscape-level IPM approach to rodent and mongoose management based on sound ecological principles, and in compliance with State and Federal pesticide laws and regulations for conservation entities in Hawaii. The specific objectives of this approach will be to:

- (1) Protect native species in Hawaii and on other specified U.S. Pacific islands from the impacts of rodents and mongooses;
- (2) Increase populations of native species important to Native Hawaiian culture;
- (3) Identify effective methods for rodent and mongoose control and eradication which are compatible with and safe for all natural resources and the human environment;
- (4) Provide the framework for effective and cost-effective use of these methods in Hawaii and on other specified U.S. Pacific islands (e.g. education, outreach and permit process); and
- (5) Comply with the Endangered Species Act, the Migratory Bird Treaty Act, the National Wildlife Refuge System Administration Act of 1966, the National Wildlife Refuge System Improvement Act of 1997, and other Federal and State laws, regulations, and policy.

In accordance with this approach, the PDEIS process would:

- (1) Summarize existing information, including quantitative and qualitative documentation, on rodent and mongoose impacts to native species in Hawaii; and then assess specific needs for rodent and mongoose management;
- (2) Evaluate the effectiveness of past and current rodent and mongoose control and eradication projects;
- (3) Evaluate the suitability of rodent and mongoose control methods not previously used in Hawaii;
- (4) Identify impacts on the human environment (interpreted comprehensively under NEPA to include “the natural and physical environment and the relationship of

people with that environment”) from the implementation of each rodent and mongoose control method considered, and develop criteria for significance;

(5) Identify consistent standards for rodent and mongoose management project implementation, including standards for monitoring, and for thresholds and triggers requiring remedial action for any significant impacts on the human environment caused by these projects; and

(6) To develop the components required of an adaptive management approach (per the Department of the Interior’s Guidance on Coordinating Adaptive Management and NEPA Processes (OEPC ESM 13-11; January 7, 2013)).

All future projects proposing to tier from this PDEIS may be subject to site-specific NEPA and/or Hawaii Revised Statutes Chapter 343 analyses consistent with Federal and State procedures. The ability to tier from the PDEIS would provide efficiencies for the site-specific NEPA compliance process. Site-specific projects would also need to comply with all other applicable legal requirements for such projects.

The joint lead agencies for this action are the Service and DOFAW. Cooperating agencies on the PDEIS are the EPA; NPS; National Oceanic and Atmospheric Administration; the U.S. Army Garrison Hawaii; the U.S. Army Garrison Pohakuloa; the U.S. Department of Defense, Naval Facilities Pacific Area Command; the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services; and the U.S. Geological Survey, Pacific Island Ecosystems Research Center. These agencies have been identified as funding, permitting, having technical expertise with, and/or implementing rodent and mongoose control within the State of Hawaii and

Pacific islands under U.S. jurisdiction. Other agencies may request to be Cooperating Agencies during the scoping period.

The PDEIS is for informational and planning purposes to improve and facilitate rodent and mongoose control on Federal, State, and private lands through the IPM process; it does not initiate any specific action or project.

The Service may use this IPM approach on the National Wildlife Refuges it administers in Hawaii and elsewhere in the Pacific, and in habitat restoration projects it funds. The Service may also recommend that it be incorporated into habitat conservation plans and other applications for ESA permits, as appropriate.

Proposed Action and Other Alternatives

In analyzing the proposed action and alternatives, we will explore the following in the PDEIS: (1) Approaches that use IPM in accordance with the Department of the Interior and Service IPM policies, and that are in compliance with FIFRA and State of Hawaii pesticide laws and regulations; and (2) particular methods of rodent and mongoose control or eradication that could be used. The PDEIS will compile research and experience-based data on rodent and mongoose management from Hawaii, other Pacific islands, and elsewhere, and information on rodent and mongoose management from the public, other agencies, Native Hawaiian organizations, NGOs, and other interested parties. All of the compiled data and information will be used to evaluate the proposed action and alternatives.

Alternative Selection Criteria. To determine how well the proposed action and alternatives facilitate achieving the objectives, as stated in the purpose and need, each

alternative will be measured against the following criteria, which are not presented in order of priority:

(1) How effective the proposed methods are at increasing populations of native species;

(2) The ability to measure the effectiveness of the proposed methods through monitoring;

(3) The ability for wildlife managers to effectively implement the proposed methods;

(4) The safety of the proposed methods for non-target species, humans, and the environment;

(5) The cost-effectiveness of the proposed methods;

(6) The level of support from communities, wildlife managers, Native Hawaiian organizations, and regulatory agencies for implementation of the proposed methods;

(7) The compatibility of the proposed methods with Federal and State laws and regulations, including Federal and State pesticide laws and regulations; and

(8) The humaneness to the target animals of the proposed methods, in terms of animal welfare.

Preliminary scoping has identified the no action alternative, a possible proposed action, and other potential alternatives summarized in the following Table:

Action/Alternative	Description	
	Is it an IPM Approach?	Methods to be included
Proposed Action: Ground and Aerial IPM	Yes	Mechanical; all toxicant application methods; use of diphacinone, chlorophacinone, brodifacoum.
No Action	No/some	State of HI- mechanical; bait station

		(diphacinone only); National Wildlife Refuge Offshore islands not in the State of Hawaii: current techniques already approved under environmental compliance.
Ground-only IPM Alternative	Yes	Mechanical; bait station, hand broadcast; use of diphacinone, chlorophacinone, brodifacoum.
Current methods within the Main Hawaiian Islands, with additional uses of diphacinone on offshore islands	Yes	Main Hawaiian Islands - mechanical; bait station (diphacinone only); uninhabited offshore islands within the State of Hawaii and on National Wildlife Refuge islands not in the State of Hawaii: application of diphacinone in bait stations, and by bola baiting, hand and aerial broadcast.

Proposed Action: The Service and DOFAW would propose to develop an IPM approach to control or eradicate invasive rodents and mongooses in Hawaii and on other U.S. Pacific islands to protect native wildlife and plants, including federally listed threatened and endangered species.

The proposed action would rely on the principles of IPM as adapted for application under the unique circumstances associated with Hawaii and other U.S. Pacific islands. The first step for use of any methods at a site would be to identify the natural resource management goals and conduct qualitative and quantitative assessments to determine if the targeted pests are negatively affecting native species and interfering with achieving the identified goals. If so, then the merits of available management methods would be evaluated using IPM principles to determine the most appropriate methods to implement, and giving consideration to impacts to the human cultural environment using criteria established in the PDEIS. Third, the selected methods would be implemented along with monitoring of the target species, and selected non-target species and native

species. This sequence of IPM steps establishes the link between the level of pest activity and the impacts on native species, and provides feedback on the effectiveness of the methods applied. The methods may then be adjusted or changed to respond to pest behavior, pest population levels, and non-target impacts, following the principles of adaptive management.

The PDEIS will analyze the effectiveness of, and environmental impacts from, a number of specific methods that could be applied under an IPM approach. These include: (1) mechanical traps and multi-kill devices; and (2) the application of vertebrate toxicants, including the rodenticides diphacinone, chlorophacinone, and brodifacoum. Rodenticide application methods to be discussed will include bait stations, hand-broadcast, aerial-broadcast, and other techniques described on the labels such as bola-baiting trees. The specific methods, or combinations thereof, that could be applied under site-specific projects would be determined based on the consistency with the IPM protocol discussed above and the analyses of effectiveness and impacts in the PEIS, and any other site-specific analysis that is necessary, such as a site-specific NEPA analysis.

At this time, we anticipate that the PDEIS will also analyze the following alternatives:

No Action Alternative: The “no action” alternative would involve continuing to conduct rodent and mongoose control, as currently practiced, using live and kill traps, multi-kill devices, and diphacinone in bait stations. Diphacinone has been used in bait stations to protect Hawaii’s native species since the 1990s. Within the State of Hawaii, this alternative would not include controlling rodents and mongooses using any bait distribution method other than bait stations or any rodenticide other than diphacinone.

(The PEIS process would not preclude the Refuge System from applying brodifacoum in bait stations and by bola baiting, hand and aerial broadcast on a case by case basis outside of the State of Hawaii where the Refuge System has complied with NEPA and other applicable requirements. Monitoring of the effects of the control method(s) on target species and the benefits to native species would be done at all Refuge sites, but might be more limited at some of the other treatment sites.)

IPM Ground-Only Alternative: Under this alternative, rodent and mongoose management would be done by using traps and multi-kill devices, as well as by the application of diphacinone, chlorophacinone, and brodifacoum in bait stations and by hand-broadcast. Rodenticides would not be aerially applied under this alternative. The principles of IPM, including monitoring the target species and selected non-target species and native species, would be implemented to improve the effectiveness of ground-based methods over current practices.

Current, Ground-Only Methods Within the Main Hawaiian Islands, With Additional Limited Uses of Diphacinone on Uninhabited Islands: Under this alternative, all currently used ground-based methods would be considered as part of the IPM process described above. Application of diphacinone by bait station, bola baiting, hand and aerial broadcast would be considered for use on islands other than the main, inhabited Hawaiian Islands.

Alternatives Not Considered in the PDEIS

Other Rodenticides: The use of rodenticides other than diphacinone, brodifacoum, and chlorophacinone will not be considered in the PEIS. Only compounds currently

registered for use on rodents in the United States for agricultural and/or conservation purposes have data sets extensive enough to support analyses in the PEIS. No acute toxicants will be considered because of the high risk of poisoning to non-target species and human applicators. Other rodenticides could be considered in the future in supplements to the PEIS.

Biological Control: The use of biological control agents for rodents and mongooses will not be considered in the PEIS. No biological control agents (predators, parasites, or disease organisms) have been able to significantly reduce rodent or mongoose populations on a broad scale in Hawaii or elsewhere. Furthermore, the release of a biocontrol agent may have significant impacts on the human environment. Because it would be impossible to limit the distribution of a biocontrol agent to the area where control is intended, there may be indirect and cumulative effects within areas of human use and habitation that would need to be evaluated. There would also be the risk of deliberate and/or accidental spread of the agent by people. Opportunities to mitigate impacts to the Polynesian rat, which is significant in Hawaiian culture, by confining its control to a small proportion of its overall population in Hawaii, would also be lost with the release of a biological control agent. Introducing predators has generally not been effective in reducing invasive rodent populations because rodent population densities are determined by factors independent of predation, including their high reproductive rate, the availability of food resources, and weather conditions. Two examples of using predators for rodent control in Hawaii are the introduction of mongooses in the 1880s, and barn owls in the late 1950s into the early 1960s. These biological control efforts were ineffective at reducing rodent damage in sugar cane, and resulted in adverse impacts

to native species. Previous studies on disease agents for rats and mice have been conducted with bacteria such as *Salmonella enteritidis*, as well as a protozoan, viruses, and a nematode, but none have met standards for safety and effectiveness for use in the United States. Rodents and mongooses are well-known vectors of many diseases and parasites that are readily transmitted to humans and domestic animals, such as rabies, leptospirosis, and murine typhus, making this alternative too risky to consider. At present, we are unaware of any programs worldwide that are identifying new biological control agents for rodents, and no research has been conducted for mongooses.

Chemosterilants and Fertility Control Agents: Chemosterilants and fertility control agents will not be considered in the PDEIS. To date, the successful use of wildlife chemosterilants has been in laboratories, pens, and limited field situations. In the latter situation, animals are either captured, treated and released, or are injected using darts at close range, which is impractical for small mammals. Although research is underway to develop chemosterilants for rats and mice, it is in the early stages. No research on the use of chemosterilants has been conducted on mongooses. If a type of bait is developed to deliver the sterilant compound, measures to prevent ingestion by non-target organisms, including protected native species, would have to be developed. Chemosterilants and fertility control agents are regulated under FIFRA, and any such product proposed for registration and licensing in Hawaii would need to complete the same process of data generation and review required for rodenticides. For these reasons, consideration of chemosterilants and fertility control agents would be speculative at this time.

Issues to be Addressed in the PDEIS

The following issues have been identified through preliminary scoping for consideration in the PDEIS. Criteria for determining the significance of impacts for each of these issues will be developed, and each issue will be evaluated for direct, indirect, and cumulative impacts, and for short-term and long-term effects on the human environment. With this notice, the Service requests comments, recommendations, and advice on issues, alternatives, and mitigation to be addressed in the PDEIS, including but not limited to:

- The potential to increase or decrease populations of native species, especially those that are rare;
- The potential to impact species protected under the Federal and State Endangered Species Acts, the Marine Mammal Protection Act, and the Migratory Bird Treaty Act, and other terrestrial species;
- The potential to impact populations of other non-target invasive species;
- The potential to impact game animals;
- The humaneness of rodent and mongoose control or eradication methods on target and non-target species;
- The potential to impact Native Hawaiian religious cultural rights and practices;
- The potential to impact the ability of Native Hawaiians to exercise their traditional and customary gathering rights for subsistence;
- The potential to impact archaeological and cultural resources; and
- The potential to counteract declines in population levels of native species that are also declining due to the effects of climate change.

In addition, the following issues specific to the use of rodenticides will be addressed:

- The potential for the use of rodenticides to impact soils, surface waters, and groundwater, including movement of rodenticides through water-based (e.g., riparian or stream) ecological systems;
- The potential for the use of rodenticides to impact freshwater fish and invertebrates;
- The potential for the use of rodenticides to impact marine species, including, but not limited to, fish, invertebrates, and corals;
- The potential for the use of rodenticides to impact essential fish habitat; and
- The potential for the use of rodenticides to cause human health impacts from consumption of meat from mammals, birds, fish and shellfish, and from drinking water.

Consideration of Mitigation and Relationship to Tiered NEPA

The PDEIS will propose and analyze standards to be established for mitigation measures, as well as propose and analyze specific mitigation measures that have been identified through the scoping process for the PDEIS. The standards for use of mitigation measures will be based upon the nature of the anticipated impacts, the probability of the impacts occurring, and the characteristics of the areas where the impacts may occur. The standards for mitigation measures will be developed with regulatory agency and community input. The standards will address monitoring to determine the effectiveness of the mitigation measures and to identify any impacts that result from the implementation of the mitigation measures. The standards will require the identification

of thresholds and triggers for requiring remedial measures as part of an adaptive management approach.

Site-specific projects will be subject to additional NEPA compliance, which may rely on and tier to the analyses presented in the PEIS, including those related to mitigation measures and standards. Mitigation measures may also be developed to reflect site-specific circumstances, as long as they meet the standards set in the PEIS. The PEIS will identify impacts that would not require mitigation and impacts that cannot be mitigated without compromising the effectiveness of the rodent and mongoose control or eradication method. Under the latter circumstances, the Service and DOFAW could decide in the PEIS not to include such methods in our preferred alternative; or we could analyze whether there are different control methods with lesser impacts that could be used. Even if we ultimately include such methods as options in our proposed action, subsequent site-specific NEPA compliance would evaluate the site-specific impacts.

The PDEIS will also evaluate the needs for any appropriate mitigation measures to protect archaeological and cultural resources during implementation of rodent and mongoose control or eradication projects pursuant to section 106 of the National Historic Preservation Act. Such mitigation would be developed in consultation with the Hawaii State Historic Preservation Division. In addition, impacts to religious cultural rights and practices will be evaluated pursuant to the American Indian Religious Freedom Act (1996).

Consistency with Federal and State Laws, Regulations, Policies, and Plans

The analysis of the proposed action and alternatives in the PDEIS will include consideration of the need to implement rodent and mongoose control and eradication in compliance with applicable Federal and State laws and regulations such as the ESA, the Clean Water Act, section 106 of the National Historic Preservation Act, the American Indian Religious Freedom Act, the Coastal Zone Management Act, DLNR's Hawaii State Comprehensive Wildlife Conservation Plan (Mitchell 2005), DLNR's watershed protection initiative, the Service's Pacific Islands Fish and Wildlife Office Strategic Plan (Service 2012), and the 2008 Management Plan for the Papahānaumokuākea Marine National Monument. The PDEIS will support a phased decision-making process that provides compliance for some of the statutory and regulatory requirements listed above at the programmatic level, and will attempt to identify and describe other requirements that must be deferred until a subsequent site-specific proposal is developed. Each implementing entity would be responsible for ensuring that all applicable statutory and regulatory requirements are met for a specific project.

Public Comments

We are seeking comments, information and suggestions from the public, interested government agencies, Native Hawaiian organizations, the scientific community, and other interested parties regarding the objectives, proposed action, and alternatives that we have identified and described above. When submitting comments or suggestions, explaining your reasoning will help us evaluate your comment or suggestion. We are particularly interested in information related to the following questions:

(1) What do you think about protecting native species and ecosystems from introduced rodents and mongooses?

(2) Under what circumstances do you think they should be controlled and eradicated?

(3) Are there additional criteria for evaluating methods for rodent and mongoose control and eradication that we have not considered?

(4) Should the criteria for evaluating methods for rodent and mongoose control and eradication be modified in any way?

(5) How would you balance these criteria when evaluating the methods?

(6) What recommendations or suggestions would you make regarding the methods that are proposed for evaluation?

(7) Are there any other methods for rodent and mongoose control that should be included? If so, please describe them in sufficient detail so that they can be evaluated.

(8) Should any of the identified alternatives be modified?

(9) Are there any other alternatives that should be considered? If so, please describe them in sufficient detail so that they can be evaluated.

(10) Are there issues not included in the list above that should be addressed?

(11) The process of determining the significance of impacts to resources is unique to each resource, and is based upon the context and intensity of the impacts. The context refers to the setting of where the proposed action may occur, the affected areas or locations, the resource affected, and the proposed action's short and long-term effects. The intensity refers to the severity of the impact. The evaluation of significance will rely upon information received during scoping, and may be modified as information is

revealed through the analyses. Are there resources for which you can identify criteria that should be used to begin to determine the significance of the impacts to these resources? Please include your thoughts on the context and intensity of the effects.

You may request to be added to the Service and DOFAW contact list for distribution of any related public documents. Information on the PDEIS is also available on the web at <http://www.fws.gov/pacificislands/>. Special mailings, newspaper articles, and other media announcements will inform interested and affected persons, agencies, and organizations of the opportunities for meaningful involvement and engagement throughout the planning process for the proposed IPM approach, including notices of public scoping meetings and notices of availability of the draft and final PEIS. This notice will be provided to Federal, State, and local agencies, and Native Hawaiian and other potentially interested organizations, groups, and individuals for review and comment.

Public Availability of Comments

All comments and materials we receive, as well as supporting documentation we use in preparing the draft PEIS, will become part of the public record and will be available for public inspection by appointment, during regular business hours, at the Service's Pacific Islands Fish and Wildlife Office (see **ADDRESSES**). Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public

review, we cannot guarantee that we will be able to do so.

Authority

The environmental review of this project will be conducted in accordance with the requirements of the NEPA of 1969, as amended (42 U.S.C. 4321 *et seq.*), Council on Environmental Quality Regulations (40 CFR parts 1500–1508), other applicable Federal laws and regulations, and applicable policies and procedures of the Service. This notice is being furnished in accordance with 40 CFR 1501.7 of the NEPA regulations to obtain suggestions and information from other agencies and the public on the scope of issues and alternatives to be addressed in the PDEIS.

**Richard R. Hannan,
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